



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,591	03/11/2005	Dong-Hyun Kim	1522-0143PUS1	2302
2292	7590	03/27/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER

3748

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/527,591	Applicant(s) KIM, DONG-HYUN	
	Examiner Thai-Ba Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8 and 9 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6,8 and 9 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/11/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

As being requested by the applicant, the amended sheets/claims filed on March 11, 2005 (which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)) during prosecution of the above-identified national phase PCT application is acknowledged.

Claim 7 was cancelled.

This application is in condition for allowance except for the following formal matters:

1. IN THE INFORMATION DISCLOSURE STATEMENT:

1. The references cited in the Search Report dated on January 17, 2005 and recorded in WIPO February 11, 2005 have been considered, but will not be listed on any patent resulting from this application because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO/SB/08A and 08B form, must be filed within the set period for reply to this Office action.

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper."

However, the references have been cited on form PTO-892 and considered by the examiner.

2. IN THE DRAWINGS:

The drawings include the following reference character(s) not mentioned in the description: “ 32’ ” and “ 34’ ” (See Figure 1); and “86” (See Figure 7). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. IN THE ABSTRACT:

Applicant is required to submit a substitute abstract to meet the requirement set for the below:

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within **the range of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. IN THE CLAIMS:

- In claim 1, lines 11 and 15, **"can be rotated"** should be replaced by – **is rotated** – (for addressing the rejection of 112, second paragraph).
- In claim 8, line 2, **"operating chambers (80) of the rotary member (60)"** should be replaced by – **operating chambers (8) of the rotary member (6)** – (for correcting typo errors and incorporating with the whole specification and drawings).
- In claim 8, line 3, **"can be rotated"** should be replaced by – **is rotated** – (for addressing the rejection of 112, second paragraph).

Conclusion

The IDS (PTO-1449) filed on March 11, 2005 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Karnes (US Patent Number 6,796,285 B2) discloses an internal combustion engine.
- Chen et al. (US Patent Number 6,776,135 B1) disclose a rotary engine.
- Kim (US Patent Number 6,722,321 B2) discloses a rotary engine.
- Sanchez Talero et al. (US Patent Number 6,668,767 B1) disclose an internal combustion engine.
- Edwards (US Patent Number 5,345,905) discloses a method of operating a rotary internal combustion engine.
- Edwards (US Patent Number 5,261,365) discloses a rotary internal combustion engine.
- Quartier (US Patent Number 2,938,505) discloses an annularly spaced oscillating piston engine.
- Hammers (US Patent Number 2,121,660) discloses an internal combustion motor.
- Wright (US Patent Number 1,790,256) discloses an internal combustion engine.
- Wilber, Jr. (US Patent Number 1,349,353) discloses a rotary engine.
- Kim (Pub. Number KR 2005-021748 A) discloses a rotary engine divided into actuating chamber and a combustion chamber for discharging residual gas from the combustion chamber.

Art Unit: 3748

- Kim (Pub. Number KR 2005-017425 A) discloses a rotary engine for improving efficiency of the engine by sucking air sufficiently with an auxiliary suction unit.

- Kim (Pub. Number KR 2004-036520 A) discloses a rotary engine.

- Drussant (Pub. Number FR 2 744 172 A1) discloses a rotary internal combustion engine.

- Scheidecker (Pub. Number DE 42 25 932 A1) discloses a rotary internal combustion engine

- Lassee (Pub. Number FR 2 651 828 A1) discloses an engine with a rotary piston.

- Williams (Pub. Number EP 0 103 985 A2) discloses a rotary engine or compressor.

- Dambroth (Pub. Number DE 23 43 909 A) discloses a rotary piston engine.

- Collinet (Pub. Number FR 2 226 864 A) discloses a rotary internal combustion engine.

- Bertras Roger-Maurice (Patent Number FR 1 255 205) discloses a rotary internal combustion engine.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
March 14, 2006


Thai-Ba Trieu
Primary Examiner
Art Unit 3748